



# MassDOT Bicycle & Pedestrian Accommodation Policy



# MassDOT's requirements under the law:

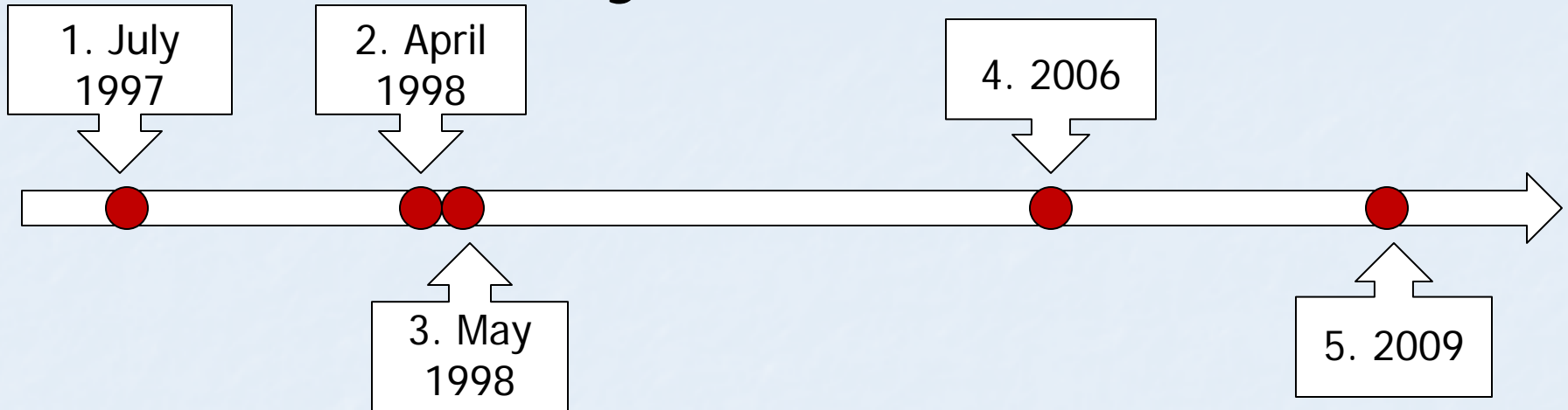
Massachusetts is one of three states (the others are Oregon and Rhode Island) to have a state law requiring the state Department of Transportation to accommodate bicycles and pedestrians into the design and construction of every project. The bill, enacted as Massachusetts General Law Chapter 87 of the Acts of 1996, was sponsored by Representative Anne Paulsen (D-Belmont). Sometimes referred to as the "Paulsen Bill", it was approved on May 20, 1996.

## Massachusetts General Laws – Bikeways Chapter 90e, Section 2a

### **Accommodation of bicycles and pedestrian traffic in construction projects.**

“The commissioner shall make all reasonable provisions for the accommodation of bicycle and pedestrian traffic in planning, design, and construction, reconstruction or any project undertaken by the department. Such provisions that are unreasonable shall include, but not limited to, those to which the commissioner, after appropriate review by the bicycle program coordinator, determines would be contrary to acceptable standards of public safety, degrade environmental quality or conflict with existing right of way.”

# Our Policy Over The Years



**1. Directive E-97-004 & E-97-005** outline the state's position on "reasonable" bicycle/pedestrian accommodations. This was superseded by....

**2. Directive E-98-002** adds that all projects must be reviewed at the 25% design level for "reasonable" bicycle/pedestrian accommodations and that bicycle lanes and shoulders should be considered early in the design process. This was superseded by...

**3. Directive E-98-003** adds that when bicycle and pedestrian accommodations cannot be reasonably met the Designer must submit a document of non-conformance. The directive now excludes maintenance type projects such as resurfacing and chip sealing funded through the Chapter 90 program. FOOTPRINT BRIDGE PROJECTS ARE EXEMPT FROM BICYCLE ACCOMMODATIONS. This was rendered obsolete by...

**4. The Project Development and Design Guide** focused on multimodal accommodations and context sensitivity. The goal is to develop a transportation infrastructure that provides access for all, a real choice of modes and safety in equal measure for each mode of travel.

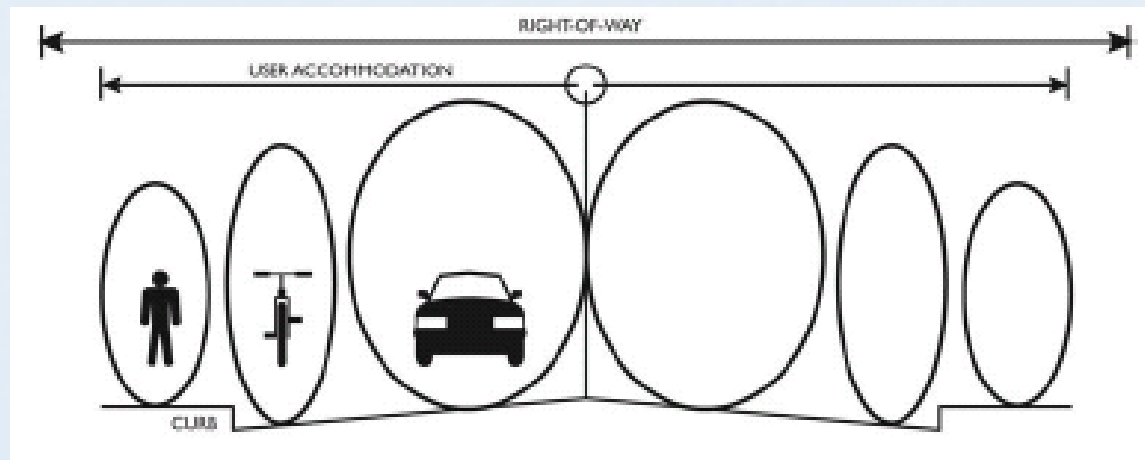
**5. Directive E-09-005** was issued to give guidance in selecting the width for roadway elements such as lanes, shoulders and sidewalks. This directive is currently being re-written with input from MASSBIKE and the Livable Street Alliance and other advocacy groups.

# What is the purpose of multimodal accommodation?

- It is the role of the designer to provide a design that is safe, convenient and comfortable for all users within the context of the project. This process is to be aided by input from the public and MassDOT during project planning. The Project Development & Design Guide (PDDG) provides descriptive cases for a range of accommodations to assist the designer with this task.
- The PDDG took an innovative approach on how to design projects. We drifted from the traditional design of let's build from the center line out to let's look at it from the outside or Right of Way in. This approach has us looking at pedestrians on sidewalks, then bicycles on shoulders or bike lanes and then the travel lanes for motor vehicles. This approach has been described to me as a real "ah ha" moment. We focused on the relationship between all users and how they overlap. It was a very simple thing but it has become a very important message in our approach to design.
- There are five cases discussed in the PDDG. The first three describe roadway cross section bounded by curb and sidewalk. These cases are most likely found in more densely developed areas. The remaining two cases are most likely found in the less developed areas.
- These cases are a guide and by no means are they intended to be typical sections applied to roadways without regard for such things as travel speeds, vehicle mix, bicycle use and pedestrian activity.

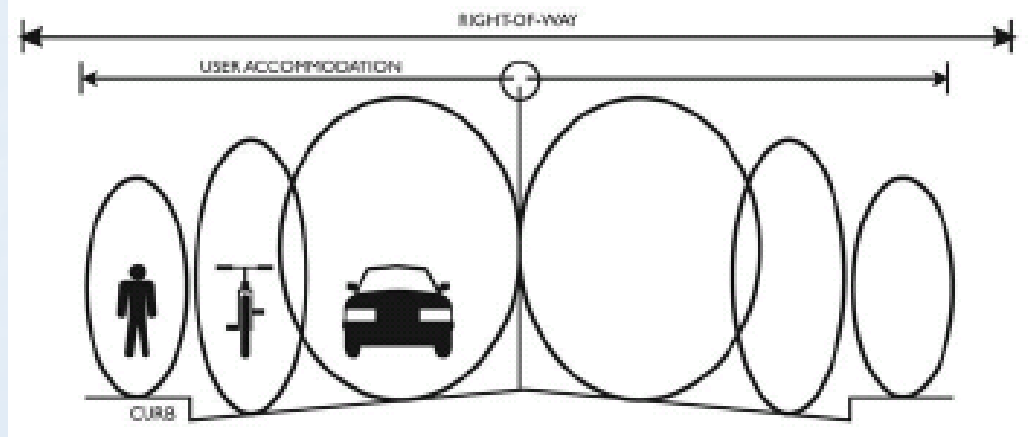
# Case 1: Separate Accommodations For All Users

- In Case 1 pedestrians are provided with a sidewalk for pedestrians separate from the roadway by a raised curb and preferably a landscaped buffer. Provision for a striped lane or shoulder suitable for bicycle use (generally 4' minimum, 5' preferred) encourages bicyclists to use the roadway. If on street parking is provided the bicycle lanes should be at least 5' wide to provide bicyclists with an additional buffer along parked cars. If a parking lane is not striped then a combined width of 13' is recommended for the bike lane and parking lane.



## Case 2: Partial Sharing for Bicycles and Motor Vehicles

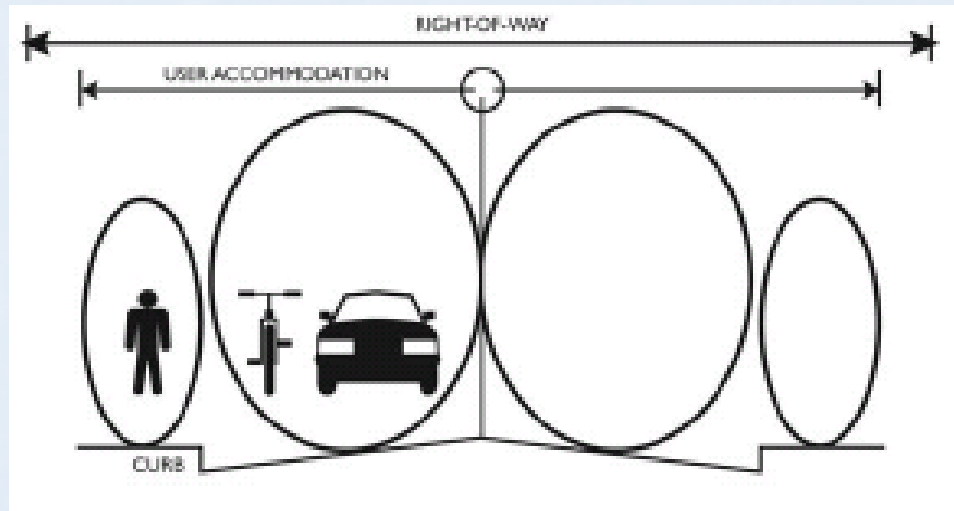
- In Case 2 there may be instances where the width necessary to provide accommodation as in case 1 is not available. There may also be instances where some sharing and overlap between bicyclists and motor vehicle traffic is acceptable to achieve other environmental or design objectives.
- Case 2 is common in areas of moderate to high density such as urban areas, suburban villages and town centers. Pedestrians are still provided with a sidewalk separate from the roadway by a raised curb and preferably a landscaped buffer to increase safety and comfort of the pedestrian. Accommodating bicycles and motor vehicles for this case often forces us to look at balance between travel lanes and narrow shoulders and narrow travel lanes and wider shoulders. In either case the result may be that a Design Exception may be required for either the lane width or the shoulder width. As the BPAE this is often the most difficult to review. Most projects I see that come in fitting this criteria are sent back to the designer with a request to provide additional information such as bicycle use, Right of way limitations and/or impacts and viable alternate routes if bicycles are not able to be safely accommodated. I would say of the 130+ project I reviewed in 2008 alone the majority fall into Case 1 or Case 2. Additionally, about 10% of my reviews are bikeways.



## Case 3: Shared Bicycle/Motor Vehicles Accommodations

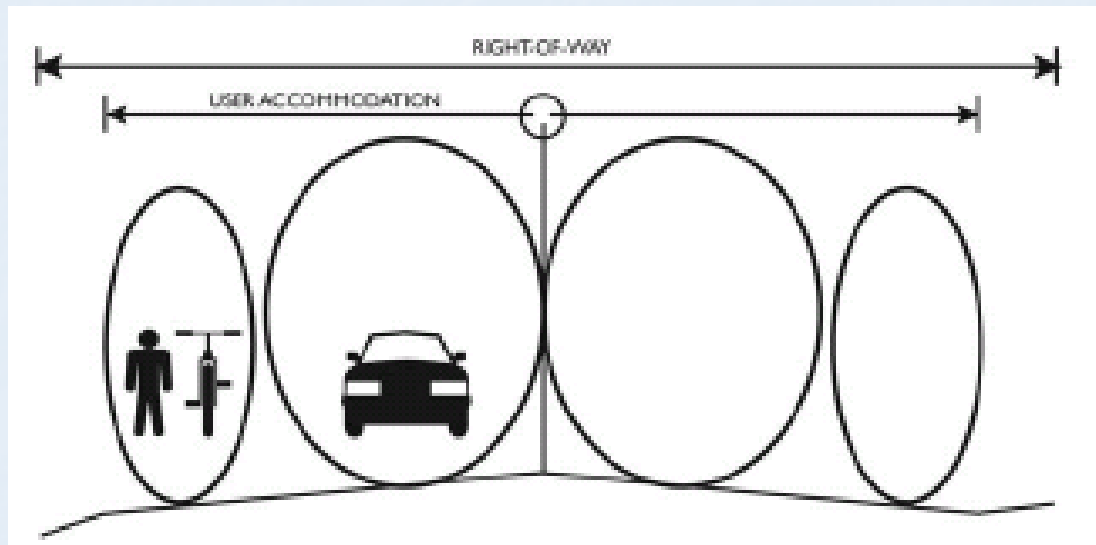
In Case 3 the accommodation of bicycles and motor vehicles is shared and still separate from pedestrian accommodations. This type of accommodation is used in areas with low to moderate motor vehicle traffic, low vehicle speeds and areas of severe right of way constraints.

- Signs and pavement markings indicating that the roadway is shared between bicycles and motor vehicles should be provided.



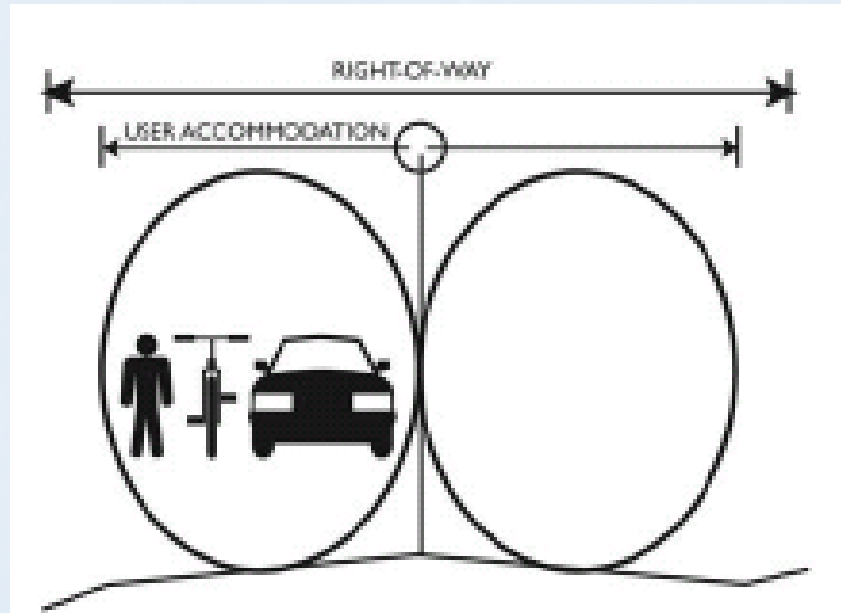
## Case 4: Shared Bicycle/Pedestrian Accommodations

- Under Case 4, pedestrians and bicyclists share the shoulder. Common in rural sparsely developed areas. Appropriate for areas with infrequent pedestrian and bicycle use.



## Case 5: Shared Bicycle/Pedestrian Accommodations

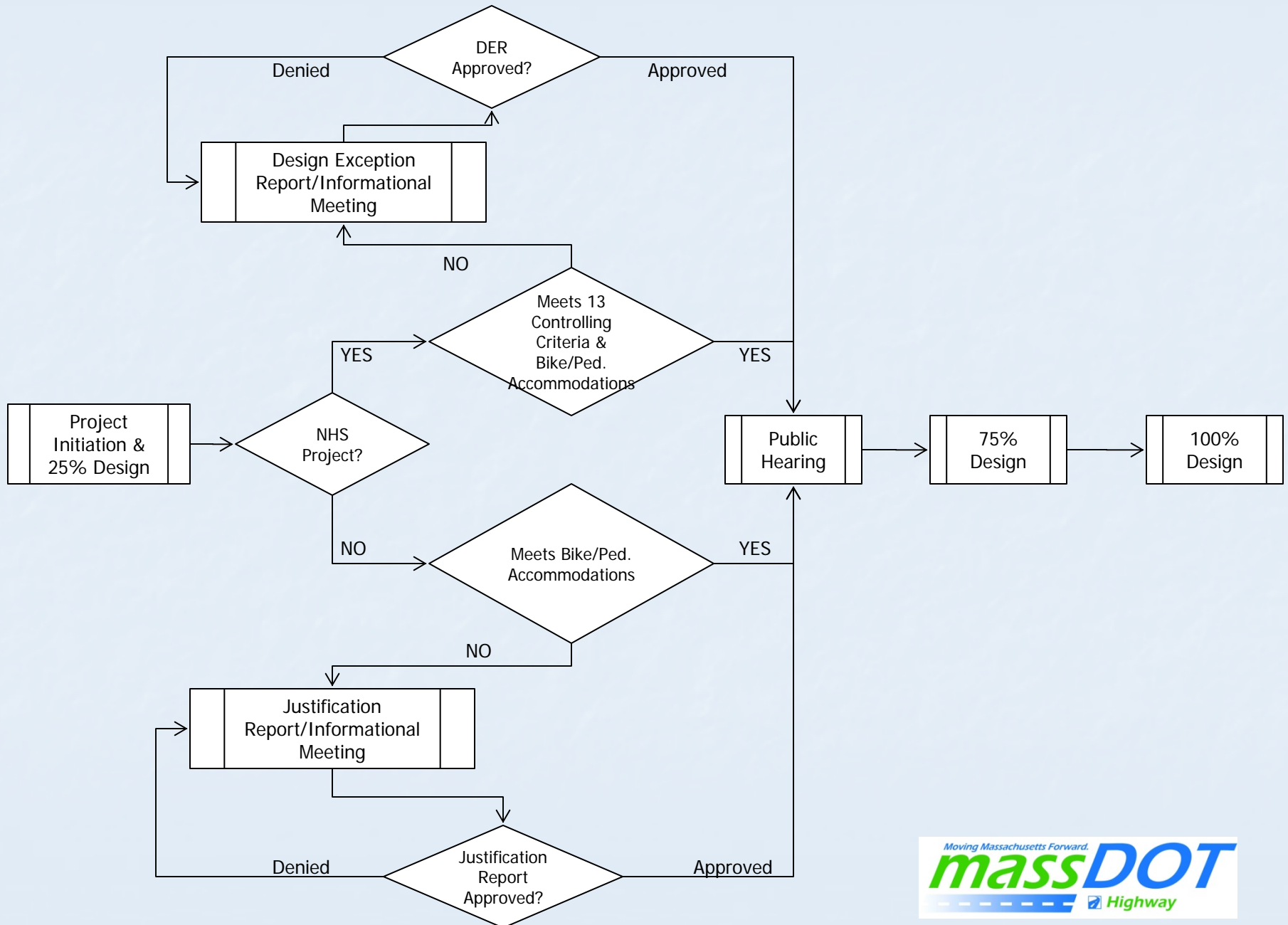
- Under Case 5, all users share the roadway. Appropriate when users demands and motor vehicle speeds are very low or when severe constraints limit the feasibility of providing separate accommodations.



## How do we work together?

- All projects including the Accelerated Bridge Program (ABP) projects are required to be reviewed and approved for bicycle and pedestrian accommodations.
- Since 2006 Footprint Bridge Projects are no longer exempt from providing bicycle accommodations.
- Most bridge projects are relatively short in length. We look at the cross section approaching and departing the bridge to determine the best way to accommodate all users on the bridge.
- We also look at the potential future development of the roadway the bridge is part of. If the roadway might eventually be widened for better accommodations to all users we would consider increasing the cross section of the bridge to match the future roadway widening.
- If the bridge cross section cannot be altered for historic reasons, then we might consider a shared use cross section with signage to make all users aware or possibly consider providing for bicycle accommodations off road on an adjacent facility.
- **We can't always make everyone happy but we strive to provide accommodations which will make everyone safe.**

# How do we work together?



# HOW TO GET MORE INFORMATION REGARDING BICYCLE & PEDESTRIAN ACCOMMODATIONS:

- To find out more about a specific MassDOT project, please follow the Project Info link from the Highway Division website at: [www.massdot.state.ma.us/highway/](http://www.massdot.state.ma.us/highway/)
- Project Development & Design Guide (2006) (Can be found on the website above)
- AASHTO Guide for the Development of Bicycle Facilities (1999)  
<http://www.communitymobility.org/pdf/aashto.pdf>
- AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities (2004)
- AASHTO Geometric Design of Highways and Streets (2004)
- Manual on Uniform Traffic Control Devices (MUTCD 2009)  
[http://mutcd.fhwa.dot.gov/pdfs/2009/pdf\\_index.htm](http://mutcd.fhwa.dot.gov/pdfs/2009/pdf_index.htm)

